A nursing initiative to heal a non-healing DM foot ulcer- Total Contact Soft

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Introduction
There are around 700,000 HK residents suffering from Diabetes Mellitus in which 12-15% of DM patients develop foot ulcer. A high 5-year mortality rate of new DM ulceration with amputation from 43 to 55% and up to 74% reported. DM foot deformities distorted normal plantar pressure during weight baring, causing chronic plantar ulcers. Traditionally, total contact cast (TCC) is the gold standard for treating plantar DM ulcers. However, it is a high cost time consuming procedure required experienced technique to reduce complications. In 2012, soft cast was introduced in O&T Nurse Clinic, QEH. The characteristics of the cast materials and the modification of the application techniques made application more easy and safe.

Objectives
To investigate the effectiveness and related outcomes including complications of soft cast in treatment of non-healing diabetic plantar ulcers.

Methodology
It is a retrospective cohort. Patients undergone soft cast application were included. Background information, disease profile and treatment process were investigated. Outcome criteria include ulcer condition, healing time and complications.

Result
There were 5 patients undergone soft cast applications during study period. All were male, age from 56 to 78. Four of them undergone ray amputation causing foot deformities; two of them also got Charcot foot pattern leading to a more difficult wound healing prognosis. Plantar ulcer history range from 3 months to more than 4 years. All patients had wound management follow-up in QEH O&T Nurse Clinic but ulcer failed to response to traditional dressing method and usual off-loading regimen. All patients’ ulcer healed with soft cast, application period range from 3 week to 17 weeks (mean 8
weeks). Complications include superficial skin lacerations and relapse of fungal infection. To conclude, Soft cast is an effective alternative to traditional TCC in dealing with plantar DM ulcer. Nurse could perform the procedure to patient safely without severe complication.